

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

Listing of Claims:

Claims 1-4 (Canceled).

Claim 5 (Currently Amended): The redundancy management method for BIOS according to Claim [[1]] 7, further comprising a step of preventing switching of said memory in standby to said memory in operation when the update of said BIOS in said memory in standby failed.

Claim 6 (Currently Amended): The redundancy management method for BIOS according to Claim [[1]] 7, further comprising a step of preventing switching said memory switched to standby, to said memory in operation when writing of said BIOS in said memory switched to standby failed.

Claim 7 (Previously Presented): A redundancy management method for BIOS, comprising the steps of:

using one of a pair of memories, which respectively store the BIOS for setting hardware in an environment in which OS can use said hardware, for operation and the other for standby;

switching to the BIOS in said memory in standby when the BIOS in said one memory cannot be booted;

executing an update of said BIOS by writing to said memory in standby;

permitting switching said memory in standby to in operation when the update of said BIOS in said memory in standby succeeded;

switching said permitted memory in standby to in operation, and said memory in operation to in standby when said hardware is started up; and

preventing execution of said switching when said hardware is started up for power recovery.

Claim 8 (Currently Amended): The redundancy management method for BIOS according to Claim [[1]] 7, further comprising a step of preventing execution of said redundancy step when said hardware is started up for power recovery.

Claim 9 (Currently Amended): The redundancy management method for BIOS according to Claim [[1]] 7, further comprising a step of executing the update of BIOS in a memory in standby of another hardware connected with said hardware according to the update of the BIOS in said memory in standby of said hardware.

Claim 10 (Currently Amended): The redundancy management method for BIOS according to Claim [[1]] 7, further comprising a step of executing the synchronization processing of the BIOS with another hardware connected with said hardware.

Claims 11-14 (Canceled).

Claim 15 (Currently Amended): The data processing apparatus according to Claim [[11]] 27, wherein said CPU prevents switching said memory in standby to the memory in operation when the update of said BIOS in said memory in standby failed.

Claim 16 (Currently Amended): The data processing apparatus according to Claim [[11]] 27, wherein said CPU prevents switching said memory switched to standby, to said memory in operation when writing of said BIOS in said memory switched to standby failed.

Claim 17 (Currently Amended): The data processing apparatus according to Claim [[11]] 27, further comprising another hardware connected with said hardware, and
said hardware executes the update of the BIOS in the memory in standby of said other hardware connected with said hardware according to the update of the BIOS in said memory in standby of said hardware.

Claim 18 (Currently Amended): The data processing apparatus according to Claim [[11]] 27, wherein said hardware executes the synchronization processing of the BIOS with said other hardware connected with said hardware.

Claims 19-22 (Canceled).

Claim 23 (Currently Amended): The storage system according to Claim [[19]] 28, wherein said CPU of said storage control apparatus prevents switching said memory in standby to the memory in operation when the update of said BIOS in said memory in standby failed.

Claim 24 (Currently Amended): The storage system according to Claim [[19]] 28, wherein said CPU of said storage control apparatus prevents switching said memory switched to standby, to said memory in operation, when writing of said BIOS in said memory switched to standby failed.

Claim 25 (Currently Amended): The storage system according to Claim [[19]] 28, further comprising another storage control apparatus, which is connected to said storage devices and said storage control apparatus and for controlling said storage devices,

wherein said storage control apparatus executes the update of the BIOS in the memory in standby of said other storage control apparatus according to the update of the BIOS in said memory in standby of said storage control apparatus.

Claim 26 (Currently Amended): The storage system according to Claim [[19]] 28, further comprising another storage control apparatus, which is connected to said storage devices and said storage control apparatus and for controlling said storage devices,

wherein said storage control apparatus executes the synchronization processing of the BIOS with said other storage control apparatus.

Claim 27 (Previously Presented): A data processing apparatus, comprising:

a hardware including a CPU;

a pair of memories which respectively store a BIOS for setting said hardware in an environment in which OS can use said hardware; and

a service processor for using one of said pair of memories for operation and the other for standby when said hardware is started up and switching to the BIOS in said memory in standby when the BIOS of said one memory cannot be booted,

wherein said CPU executes the update of said BIOS by writing to said memory in standby,

wherein said service processor permits switching said memory in standby to said memory in operation when the update of said BIOS in said memory in standby succeeded,

wherein said service processor switches said permitted memory in standby to a memory in operation, and said memory in operation to said memory in standby when said hardware is started up, and

wherein said CPU prevents execution of said switching when said hardware is started up for power recovery.

Claim 28 (Previously Presented): A storage system, comprising:

a storage control apparatus comprises:

a hardware including a CPU;

a pair of memories which respectively store a BIOS for setting said hardware in an environment in which OS can use said hardware; and

a service processor for using one of said pair of memories for operation and the other for standby when said hardware is started up and switching to the BIOS in said memory in standby when the BIOS of said one memory cannot be booted; and

a plurality of storage devices connected to said storage control device.

wherein said CPU of said storage control apparatus executes the update of said BIOS by writing to said memory in standby,

wherein said service processor of said storage control apparatus permits the switching of said memory in standby to said memory in operation when the update of said BIOS in said memory in standby succeeded,

wherein said service processor of said storage control apparatus switches said permitted memory in standby to a memory in operation, and said memory in operation to said memory in standby when said hardware is started up, and

wherein said CPU prevents execution of said switching when said hardware is started up for power recovery.

Claims 29-31 (Canceled).

Claim 32 (Currently Amended) The redundancy management method for BIOS according to claim [[1]] 7, ~~wherein said writing~~ further comprising writing the BIOS of said one memory switched to operation, to said the other memory switched to standby for redundancy after said switching and successful booting up of said BIOS of said one memory switched to operation when a version of the BIOS of said other memory is different from a version of said BIOS of said one memory.

Claim 33 (Currently Amended) The data processing apparatus according to Claim [[11]] 27, wherein said CPU writes the BIOS of said one memory switched to operation, to said the other memory switched to standby for redundancy after said switching and successful booting up of said BIOS of said one memory switched to operation when a version of the BIOS of said other memory is different from a version of said BIOS of said one memory.